NOCTURNAL STAPHYLINIDAE OF THE SOUTHERN CALIFORNIA SEA BEACHES[1]

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ABSTRACT: Three species of Staphylinidae, *Thinopinus pictus* LeConte, *Pontamalota opaca* LeConte and *Thinusa maritima* Casey, are nocturnal on the wet sand during an outgoing tide. The habits of their congeners north of Point Conception needs investigation.

DESCRIPTORS: Staphylinidae, seashore, nocturnal, behavior, southern California.

In 1956, (Trans. San Diego Soc. Nat. Hist. 12: 207-230, 3 pl.) I reported on the zonation of the southern California seashore as it affects the indigenous Coleoptera. The zone of the sandy beaches I subdivided into three subzones according to the reach of the tides and its effect on wrack, (1) the area of fresh seaweed, (2) the area of decaying seaweed and (3) the area of dry seaweed. Each of these subzones supports a distinctive assemblage of Coleoptera. The area of fresh seaweed is that of the reach of each daily tide and consequently varies in width with the daily tidal range. In southern California its obvious diurnal population includes the tiger beetle *(Cicindela)* flies and the commoner species of *Cafius* (Staphylinidae) all of which species are found running on the wet sand or flying. Its less apparent components are several species of flightless Staphylinidae which are often abundant but not noticeable because they are nocturnal in habits.

At least three species of Staphylinid of the sandy beaches of southern California are known to be nocturnal. Each of these species is encountered only rarely in decaying seaweed. They are *Thinopinus pictus* LeConte, *Pontamalota opaca* LeConte and *Thinusa maritima* Casey. These species can be found at night sometimes in large nmbers, on the wet sand during an outgoing tide. They are restricted in occurrence to certain beaches. I have had

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an opportunity to investigate only a few beaches at night so can only surmise as to the characteristics of such beaches. They seem to be open beaches backed up by sand dunes, not narrow beaches at the bases of cliffs.

Thinopinus pictus LeConte is a large insect (15-20 mm.) relatively broader than most Staphylinids. It is pale flavate in color very similar to the color of the wet sand on which it rests. The head, pronotum, elytra and abdomen are marked with patterns of black which are variable in extent. On some beaches specimens are more or less regularly scattered a few feet apart on the upper ten or twenty feet (depending on the slope of the beach) of wet sand during a receding tide. These insects stay mostly in one place but occasionally run a few inches. *Thinopinus pictus* feeds largely on the amphipod *Orchestoidea californica.* Craig, 1970 (Ecology 51: 1012-17) said "When an amphipod lands or crawls nearby, the beetle lunges and grasps the prey in its large, sickle-shaped mandibles, but the prey must usually pass within 5 mm. before a strike is attempted. One might expect this feeding method to be ineffectual, but the number of apparently random encounters with passing beach hoppers is large."

Pontamalota opaca (LeConte) is sometimes found in great abundance on certain beaches at night. *P. bakeri* Bernhauer and *P. nigriceps* Casey are probably synonyms of this species. The genus is in need of revision. *P. opaca* is a small (3 mm.), slender, flavate insect found on the same beaches as *Thinopinus pictus.* It is usually much more numerous than the latter. It is difficult to see what they can find to eat to support their large numbers. They are usually on the move, running not very rapidly over the damp sand changing direction rather abruptly from time to time. They must spend their daylight hours buried in the sand. It is surprising on very rare occasions to find a clump of wrack in the daytime with quite a few of these insects in it when other similar clumps of wrack nearby lack them. They are seldom found in wrack even on beaches with a large population. The early stages and ecology are unknown.

Thinusa maritima (Casey) is a small (2.4 mm.) slender, dark insect which is often found at night on the wet sand with *Thinopinus pictus* and

Pontamalota opaca. The tip of the abdomen is noticeably paler than the rest of the insect. This species is often as abundant as *Pontamalota opaca* and, like that species, is usually on the move. Its life history is also unknown. It, too, is only very rarely found in wrack even on beaches where it is abundant at night.

None of the above species is attracted to light. Other, winged species of Staphylinidae (*Bledies fenyesi* Bernhauer and Schubert and *Cafius canescans* Maklin particularly) will come to light on the beach, being presumably attracted from decaying seaweed. They are not encountered commonly on the wet sand in association with the above three.

On one occasion at Estero Beach, Baja California Norte, Mexico, I encountered specimens of a small, dark *Diglotta* sp. (presumably *D. pacifica* Fenyes) in association with *Thinusa maritima* on the beach at night. They tended to spring in the air when approached and so were difficult to capture. Members of this genus are rare in collections possibly because of their nocturnal habits.

From northern California to Alaska *Thinopinus pictus* is represented by a dark subspecies, *variegatus* Motschulsky. It apparently is also nocturnal but I do not know this from firsthand experience. *Ponamalota opaca* is not known from north of Point Conception. A similar but darker species, *P. californica* Casey, takes its place. I have collected *P. californica* in seaweed, often quite fresh seaweed, on the beach at Cayucos, San Luis Obispo County and Carmel, Monterey County in the daytime but did not find it at night on the wet sand. The range of *Thinusa maritima* extends north to the state of Washington but nothing is known about its habits in the northern part of its range.

LITERATURE CITED

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